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EXAMINER

LEWIS, RALPH A

ART UNIT PAPER NUMBER

3732

DATE MAILED: 09/22/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/035,544

Applicant(s)

CALVERT, RANDALL REX

Examiner

Ralph A. Lewis

Art Unit

3732

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 24 June 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-91 is/are pending in the application.
- 4a) Of the above claim(s) 61-71, 75-77, 81-83 and 86-91 is/are withdrawn from consideration.
- 5) ☒ Claim(s) 37-41 is/are allowed.
- 6) ☒ Claim(s) 1-8, 12, 14-18, 20, 22-25, 27-32, 34-36, 42-48, 50-60, 72-74, 78-80, 84 and 85 is/are rejected.
- 7) ☒ Claim(s) 9-11, 13, 19, 21, 26, 33 and 49 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

### **Rejections based on Prior Art**

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 2, 4, 5, 14, 15, 17 and 22 are rejected under 35 U.S.C. 102(b) as being anticipated by Vari (5,503,559).

Vari discloses an optic fiber 94 (Figure 20, column 9, lines 58-62) that is resilient and sized for extending to the apex (apical portion) of a root canal. Optical fibers are inherently fully polymerized (note this inherence is presumed with applicant's own fiber optics as applicant's specification provides no explicit support for the "fully polymerized" limitation). The Vari optic fiber is illustrated abutting the walls on the left hand side of the root canal of the tooth and extends to the apical portion of the root canal. The Vari optic fiber meets all the structural limitations of applicant's presently claimed "plug." In regard to claim 14, note the elongated support coupled at 94 (Figure 20).

In response to the present rejection applicant further amended the present claims to require that the plug body be "provided in more than one predetermined configuration to permit the body to substantially abut the walls of the root canal" and argues that Vari fails to disclose such a feature. It is unclear how this limitation that the plug may come in a variety of different predetermined shapes overcomes the Vari reference if one of

those predetermined shapes is simply an optic fiber as illustrated by applicant in Figure 1. The implied limitation that the user will select the claimed plug from a set of different shaped plugs is simply a matter of how applicant intends for the claimed device to be used and fails to impose any objectively ascertainable structural distinctions from the optic fiber of Vari. Applicant's claims are only calling for "a plug" and not a set of plugs – the claims include within their scope applicant's Figure 1 device (a simple fiber optic strand), as well as, that of Vari (a simple fiber optic strand). A simple fiber optic strand does not become patentable based on how applicant desires its use. Claims including within their scope a simple fiber optic strand will not be allowed.

Previously, in response to the present rejection applicant amended the claims to require that the plug "substantially abut the walls of the root canal and extend to the apical portion of the root canal when implanted" and argued that his strand of fiber optic is patentable over the Vari strand of fiber optic because the Vari Figure 20 "optical fiber does not substantially abut the walls of the root canal, nor does it substantially occupy an entire volume of the root canal, as clearly shown in Figure 20" (09/14/2004 response, page 19).

Applicant's attention is directed to the following passages in his own specification. "The canals are generally curved and often have irregular cross sectional area along the length of the canal" (specification page 1). "The plug 10 may further be suitably proportioned to fill the root canal in the tooth by providing a range of sizes that are selectable by an endodontist. For example, the plug 10 may be manufactured in

standardized sizes or feather tip sizes, or sizes customized to fit a predetermined taper of currently available endodontic rotary instruments that vary in overall length, width, degree of taper, or any combination of length width and taper in order to more closely adapt to the generally unique features of a given root canal.” (specification page 9). It is clear, in light of applicant’s own specification and disclosure that whether or not a particular fiber optic strand (e.g. the Vari fiber optic of Figure 20, as well as, applicant’s fiber optic of Figures 1 and 2) is “suitably proportioned to substantially abut the walls of the root canal of the tooth and extend to the apical portion of the root canal when implanted” depends on the particular “unique features of a given root canal.” The illustrated Vari fiber optic strand of Figure 20 is capable of meeting the specific claim limitation for some root canals, but not others, just as applicant’s fiber optic strand illustrated in Figure 1 is capable of meeting the claim limitations with respect to some root canals, but not others. If applicant’s disclosed and claimed plug were particularly shaped to match the “irregular cross sectional area along the length of the canal” that would be one thing, but these presently rejected claims include within their scope just a simple cylindrical elongated optic fiber as illustrated in Figure 1. It is a well settled issue of patent law that a known device does not become patentable merely because an applicant desires a different **use** for that prior art device. Applicant points no physical distinction between his claimed optic fiber and the optic fiber disclosed by Vari, but merely argues that the optic fibers are used differently.

Claims 1, 2, 14, 15, 22-24, 42, 43, 46, 50, 51, 54 and 57-60 are rejected under 35 U.S.C. 102(b) as being anticipated by Weissman (5,326,263).

Weissman discloses a plug 11 made of a flexible optically transmissive material for insertion into a prepared root canal. An elongated fiber optic support is coupled to the plug portion. In regard to the intended use limitations that the plug "substantially abut the walls of the root canal and extend to the apical portion of the root canal when implanted," it is noted that the Weissman optical plug is capable of such a use.

Applicant's own specification admits at pages 1 and 9 that root canals come in various shapes and sizes and further admits at page 10, lines 8-11, that root canals when prepared are subject to numerous mechanical shaping operations including reaming or filing. The particular root canal opening size is largely dependent on the "unique features of a given root canal" as well as how much the particular root canal is reamed. The examiner is of the firm position the Weissman plug 11 is capable of meeting the limitations for a particular root canal reamed to a size to accommodate the Weissman plug in a sealing manner. Consequently the Weissman plug is physically capable of meeting the functional limitation of how applicant intends for the claimed device to be used.

In response to the present rejection applicant further amended the present claims to require that the plug body be "provided in more than one predetermined configuration to permit the body to substantially abut the walls of the root canal" and argues that Weissman fails to disclose such a feature. It is unclear how this limitation that the plug

may come in a variety of different predetermined shapes overcomes the Weissman reference if one of those predetermined shapes may be that disclosed by Weissman. The implied limitation that the user will select the claimed plug from a set of different shaped plugs is simply a matter of how applicant intends for the claimed device to be used and fails to impose any objectively ascertainable structural distinctions from the optic fiber of Weissman. Applicant's claims are only calling for "a plug" and not a set of plugs – the claims include within their scope applicant's Figure 1 device (a simple fiber optic strand), as well as, that of Weisman (a fiber optic strand). Moreover, even if applicant called for a set of different sized plugs, it is unclear how the selection of admittedly "standardized sizes" (applicant's specification page 9, lines 14) adds any patentable weight as the ordinarily skilled artisan would most certainly have found the use of standardized sizes obvious.

Applicant's arguments that his claimed device is used differently than the Weissman device, fail to provide for any objectively ascertainable structural distinctions between the claimed device and the prior art device.

Claims 1, 4-7, 12, 14, 17, 18, 20, 22-24, 42, 46-48, 50, 54-56, 72 and 78 are rejected under 35 U.S.C. 102(b) as being anticipated by Billet et al (WO 98/11842)(for purposes of explaining this rejection US 6,183,253 B1 is relied upon as an English translation of the earlier published PCT application).

Billet et al discloses an elongated body comprised of a biologically compatible resilient optically transmissive material (e.g. glass fibers, column 3, line 30, 32) that is

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fully polymerized (column 3, line 12). It is noted that the Billet et al body also includes materials other than the claimed fully polymerized material, however, applicant uses the open term "comprising" to indicate that the "body" can include materials other than materials that are fully polymerized. In regard to the "suitably proportioned to substantially abut the walls of the root canal of the tooth and extend to the apical portion of the root canal" limitation, attention is directed to Figure 2 where the plug body 8 is inserted into a reamed root canal 7 have an irregular cross sectional area along its length wherein the plug is proportioned to substantially abut the walls and extend to the apical portion of the root canal.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 3, 5, 16, 44, 45, 52 and 53 are rejected under 35 U.S.C. 103(a) as being unpatentable over Weissman (5,326,263).

The use of translucent materials, conventional materials (re claim 5, note column 7, lines 18-29) and adhesives with conventional viscosities would have been obvious to one of ordinary skill in the art as a matter of routine practice in carrying out the invention described by Weissman.



Claims 6-8 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Weissman (5,326,263) in view of Billet et al (WO 98/11842) (for purposes of this rejection US 6,183,253 B1 is relied upon as an English translation of the earlier published PCT application).

Billet et al teach that it is often desirable to include radiopaque materials in fiber optic root canal fillings so that the fillings can be detected by x-ray. To have included conventional fiber optic materials in the fiber optic plug of Weissman so that it could be view by x-ray as taught by Billet et al would have been obvious to one of ordinary skill in the art.

Claims 2, 3, 8, 15, 16, 73, 74, 79 and 80 are rejected under 35 U.S.C. 103(a) as being unpatentable over Billet et al (WO 98/11842) (for purposes of this rejection US 6,183,253 B1 is relied upon as an English translation of the earlier published PCT application).

In regard to claims 2, 3, 15, and 16, Billet et al indicate that the disclosed plug 8 is comprised of a material which is in the form of fibers that are permeable to light (column 3, line 32) but does not explicitly state that the fibers are transparent and/or translucent. One of ordinary skill in the art would readily appreciate and find obvious the use of transparent and/or translucent fibers as the "permeable to light" fibers of Billet et al. In regard to claim 8, the selection of a conventional radiopaque material for the radiopaque material disclosed by Billet et al (column 3, line 18), would have been obvious to one of ordinary skill in the art.

Claims 1-8, 12, 14-18, 20, 22, 23, 25, 27-32, 34-36, 42-48, 50-60, 72-74, 78-80, 84 and 85 are rejected under 35 U.S.C. 103(a) as being unpatentable over Martelli et al (EP 0 938 875) in view of Billet et al (WO 98/11842) (for purposes of this rejection US 6,183,253 B1 is relied upon as an English translation of the earlier published PCT application).

Martelli et al disclose a method for obturating a root canal wherein an adhesive is applied a root canal passage (column 3, lines 49-50) an optically transmissive fully polymerized glass fiber plug is then inserted into the root canal and the plug is connected with a light source to conduct light to the root canal polymerizing the adhesive (note column 3, lines 51-54). Martelli et al do not discuss the treatment of the canal to the depth of the apical foramen and the Figures do not appear to illustrate the method of root canal obturation extending to such a depth. Billet et al, however, teach that it is known to clean the root canal to the tip of the apical foramen and then fill it in a sealing manner with a fiber optic plug. To have extended the Martelli fiber optic plug to a length such that it extended to and sealed the apical foramen would have been obvious to one of ordinary skill in the art as taught by Billet et al.

#### **Allowable Subject Matter**

Claims 37-41 are allowed.

Claims 9-11, 13, 19, 21, 26, 33 and 49, are objected to and would be allowable if rewritten in independent form to include all of the limitations of the claims from which they depend.

### Action Made Final


All claims are drawn to the same invention claimed earlier and could have been finally rejected on the grounds and art of record in the next Office action if they had been entered in the earlier application. Accordingly, **THIS ACTION IS MADE FINAL** even though it is a first action in this case. See MPEP § 706.07(b). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no, however, event will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Any inquiry concerning this communication should be directed to **Ralph Lewis** at telephone number **(571) 272-4712**. Fax (571) 273-8300. The examiner works a compressed work schedule and is unavailable every other Friday. The examiner's supervisor, Kevin Shaver, can be reached at (571) 272-4720.

R.Lewis  
September 19, 2005



Ralph A. Lewis  
Primary Examiner  
Au 3732